



U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

**IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE NUMBER USA/0632/S, REVISION 0**

This certifies that the sources described have been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency¹ and the United States of America² for the transport of radioactive materials.

1. Source Identification - AEA Technology QSA, Inc. Model Numbers X.1 and X.1/2.
2. Source Description - Both models are a cylindrical double encapsulation made of stainless steel and tungsten inert gas or laser seal welded. Approximate outer dimensions of both models are 7.9 mm (0.31 in.) in diameter and 10.1 mm (0.4 in.) in length. The Model No. X.1/2 contains an aluminum spacer within the inner encapsulation. Construction shall be in accordance with attached AEA Technology QSA, Inc. Drawing Number RBA10880, Rev. A.
3. Radioactive Contents - No more than either 3.7 GBq (100 mCi) Americium-241 or 13 GBq (351 mCi) Californium-252. The Americium-241 is in oxide form and mixed with Beryllium powder and pressed into a solid pellet. The Californium-252 is in the form of a metal wire or an oxide solid ceramic.
4. Quality Assurance - Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations¹ shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors and consignees in the United States exporting or importing shipments under this certificate shall satisfy the requirements of Subpart H of 10 CFR 71.
5. Expiration Date - This certificate expires June 15, 2008.

¹ "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

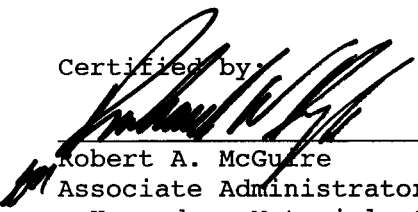
² Title 49, Code of Federal Regulations, Parts 100 - 199, United States of America.

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CERTIFICATE USA/0632/S, REVISION 0

This certificate is issued in accordance with paragraph 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the petition and information dated April 16, 2003 submitted by AEA Technology QSA, Inc., Burlington, MA, and in consideration of other information on file in this Office.

Certified by:



Robert A. McGuire
Associate Administrator for
Hazardous Materials Safety

JUN 12 2003

(DATE)

Revision 0 - Original issue.

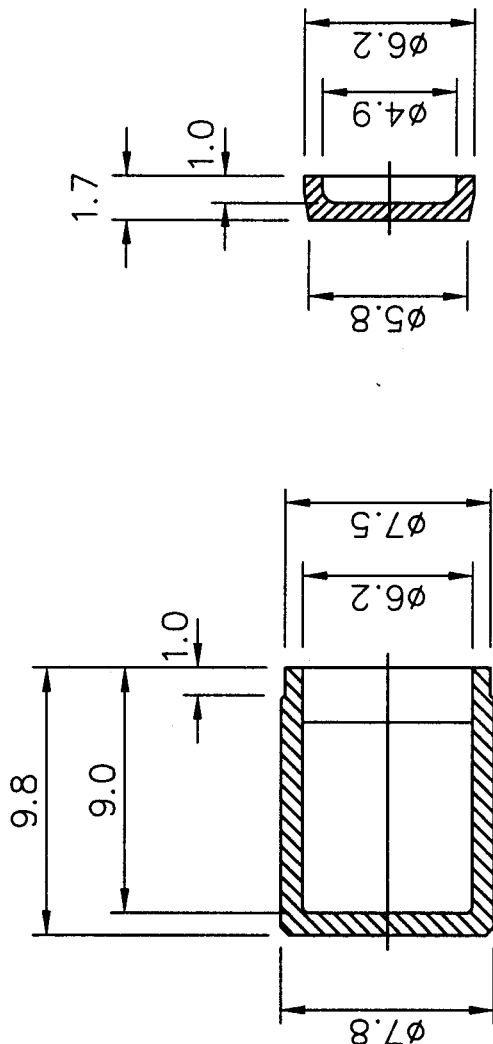
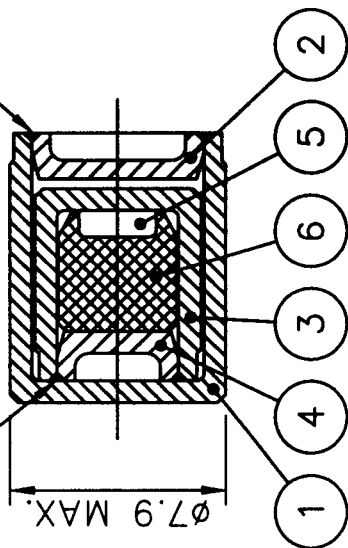
ITEM No.	DESCRIPTION		QTY.
1	SHEATH BODY	STAIN.STL	1
2	SHEATH LID	STAIN.STL	1
3	CELL BODY	STAIN.STL	1
4	CELL LID	STAIN.STL	1
5	ACTIVE MATERIAL		1
6	SPACER (MODEL X1/2 ONLY) ALUM.		AR

TIG OR LASER WELD TO SEAL

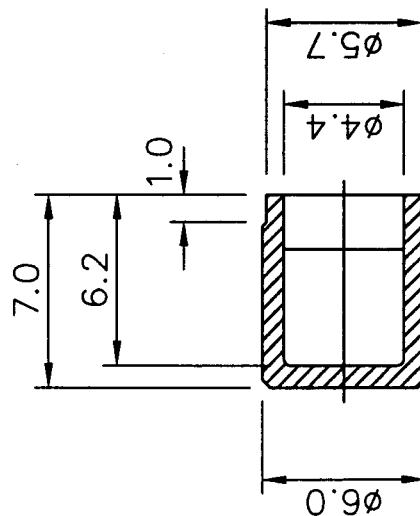
10.1 MAX.

TIG OR LASER WELD TO SEAL

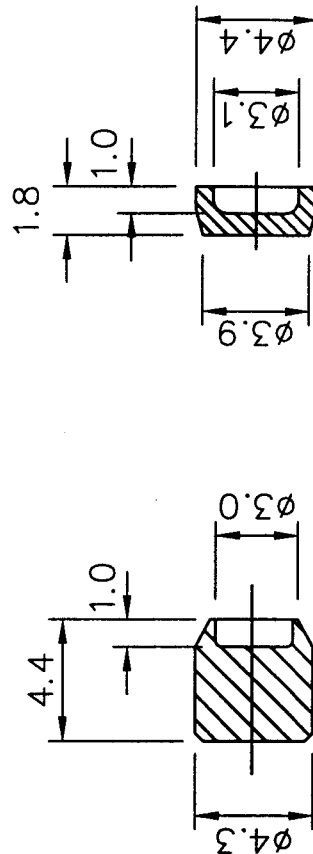
7.9 MAX.



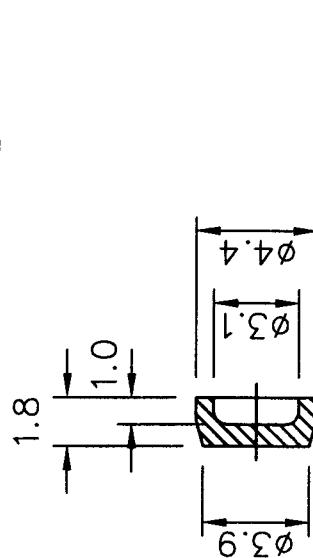
ITEM 1



ITEM 3



ITEM 6



ITEM 2

ITEM 4

APPROVALS	
<i>[Signature]</i>	16 APR 03
<i>[Signature]</i>	16 APR 03



DESCRIPTIVE
DRAWING

DIMENSIONS IN MILLIMETERS
UNLESS OTHERWISE STATED TOLERANCES:

X	±0.5
XX	±0.1
XXX	±0.05
ANGULAR	±5°
INTERNAL	M
EXTERNAL	N

TITLE X1 & X1/2 CAPSULE ASSY

SIZE	DWG. NO.	REV
A	RBA10880	A
SCALE:	SHEET 1 OF 1	

ERF # 476